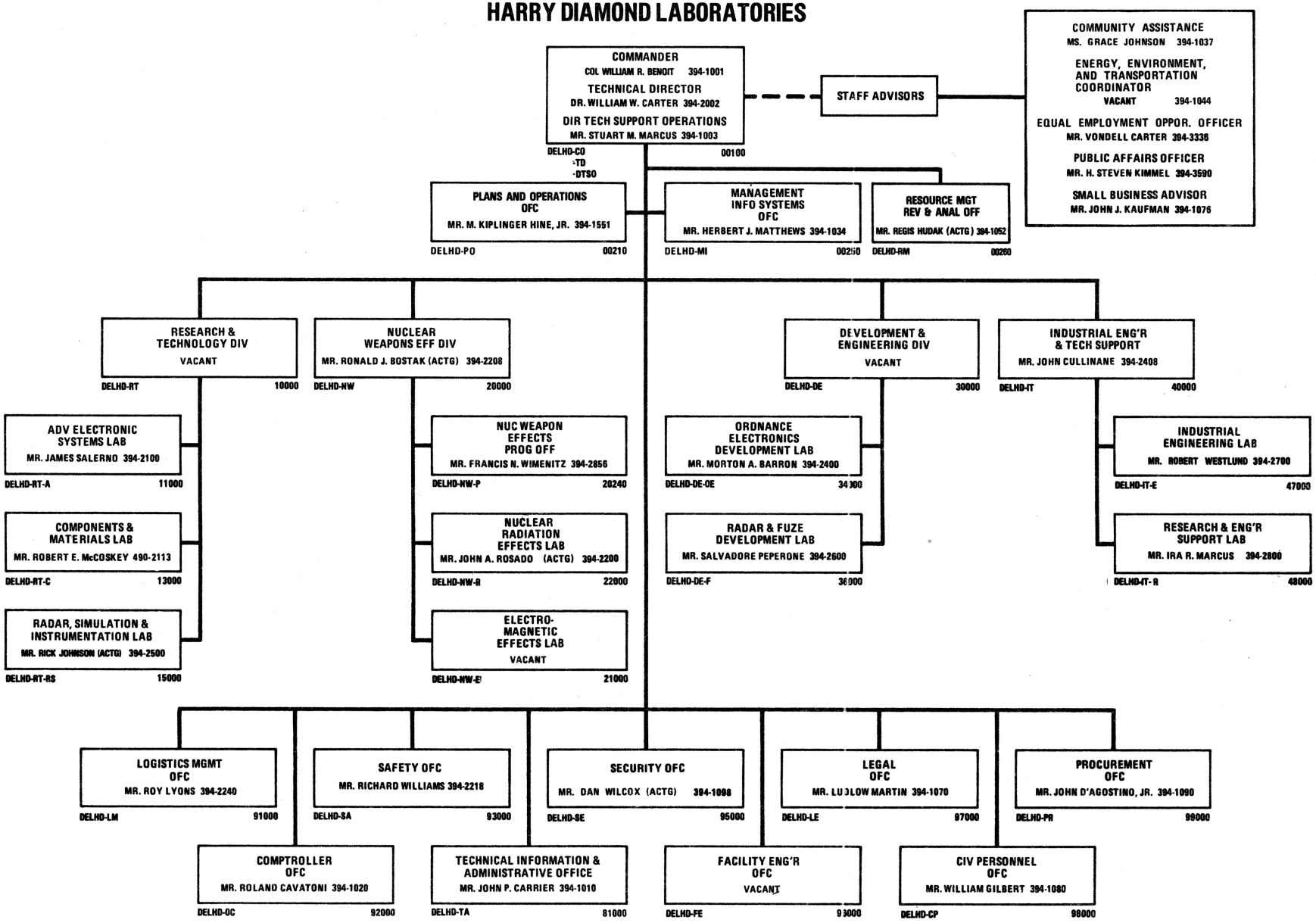
UNITED STATES ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND

HARRY DIAMOND LABORATORIES



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JUNE 1980

MAIL ADDRESS: COMMANDER
HARRY DIAMOND LABORATORIES
2800 POWDER MILL ROAD
ADELPHI, MD. 20783

HARRY DIAMOND LABORATORIES
ADELPHI, MARYLAND

HISTORY

- First established as Ordnance Division of National Bureau of Standards during World War II.

- Transferred to the Army in 1953, the investigations of the Diamond Ordnance Fuze Laboratories (DOFL) were focused primarily on ordnance fuzes and related technologies.

- In 1962, as a result of a major Department of Army reorganization, it was given a broader mission, assigned to the Army Materiel Command, and renamed Harry Diamond Laboratories (HDL).

- In March 1977, the US Army Electronics Research and Development Command (ERADCOM) assumed operational control over the Laboratories.

MISSION

- Principal developer of electronic fuzing for projectiles and missiles and serves as the Army Lead Laboratory for fluidics and nuclear weapons effects technologies including hardening and vulnerability analysis.

- Applications of these research and development programs are directed at such developments as mortar, artillery, rocket and missile electronic fuzes, nuclear surviveability, radar security systems, anti-radiation missile countermeasures and radar technology base investigations.

FY80 GOALS

- Continue work begun in FY79 on the near-millimeter wave portion of the electromagnetic spectrum.

- Continue work within the fluidic program that is now offering a major advance in the state-of-the-art in temperature sensing in high temperature (2,000 to 5,000 F) corrosive industrial environments.

- Conduct initial field tests of the Unattended Expendable Jammer (UEJ) and fabricate first breadboard Sensor for the Anti-Radiation Projectile (ARP).

- Continue ERADCOM's FY80 radar technology base program with emphasis on netted radar.

- Develop electronic fuzes for PATRIOT, MLRS, and the 155mm nuclear artillery projectile. Continue production of M732 short intrusion proximity fuze, M734 multioption mortar fuze, M587/724 electronic time fuze for artillery, and M735 proximity fuze for 8-inch artillery projectile.

- Provide nuclear surviveability for Army systems through R&D in nuclear weapons effects and the Nuclear Effects Support Team (NEST).

- Initiate development/production of the Hardened Tactical Shelter (HATS).

- Demonstrate initial feasibility of the application of acousto-optic technology to real-time low cost signal processing.

- Type classify G76 Hand Crank Generator.

SELECTED ACCOMPLISHMENTS FY79

- Successfully completed DT/OT II of XM445 fuze for MLRS.

- Type classified and first procurement contract let for M735 fuze and setter for 8-inch nuclear projectiles.

- Successfully completed DTII of XM818 fuze for PATRIOT missile.

- Contracts let for Initial Production Facility (IPF) and production of M587/724/M36 electronic time fuze for artillery.

- Established feasibility of digitized FM radar fuzes.

- First production of the M734 multi-option mortar fuze and IPF for LWCMS.

- Demonstrated a 2-axis (elevation and azimuth) fluidic turret stabilization system utilizing laminar jet flow devices.

FY79 STATISTICAL DATA

- 5 authorized military personnel

- 1096 authorized civilian personnel

- Total Funding $189.2 million

- 74 Internal Publications published

- 62 External Publications published

- 35 Patents Issued

- 89 Professional presentations